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(54) **CONTACT SENSING SYSTEMS AND METHODS**

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See application file for complete search history.

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(57) **ABSTRACT**

According to some embodiments, a medical instrument
comprises an elongate body having a proximal end and a
distal end and a pair of electrodes or electrode portions (for
example, a split-tip electrode assembly). Systems and meth-
ods are described herein that perform contact sensing and/or
ablation confirmation based on electrical measurements
obtained while energy of different frequencies are applied to
the pair of electrodes or electrode portions. The contact
sensing systems and methods may calibrate network param-
eter measurements to compensate for a hardware unit in a
network parameter measurement circuit or to account for
differences in cables, instrumentation or hardware used.

20 Claims, 22 Drawing Sheets

